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09/980,724	05/29/2002	Andrew Patrick Baird	3981/0K014	6647

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EXAMINER

LEE, BENNY T

ART UNIT	PAPER NUMBER
2817	

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Please find below and/or attached an Office communication concerning this application or proceeding.



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SERIAL NUMBER	FILING DATE	FIRST NAMED APPLICANT	ATTORNEY DOCKET NO.

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10	

DATE MAILED:

This is a communication from the examiner in charge of your application.

COMMISSIONER OF PATENTS AND TRADEMARKS

 This application has been examined  Responsive to communication filed on \_\_\_\_\_  This action is made final.A shortened statutory period for response to this action is set to expire 1 hr (3) month(s), \_\_\_\_\_ from the date of this letter.  
Failure to respond within the period for response will cause the application to become abandoned. 35 U.S.C. 133.

## Part I THE FOLLOWING ATTACHMENT(S) ARE PART OF THIS ACTION:

1.  Notice of References Cited by Examiner, PTO-892. 2.  Notice re Patent Drawing, PTO-948.  
3.  Notice of Art Cited by Applicant, PTO-1449 4.  Notice of Informal Patent Application, Form PTO-152  
5.  Information on How to Effect Drawing Changes, PTO-1474 6. \_\_\_\_\_

## Part II SUMMARY OF ACTION

1.  Claims \_\_\_\_\_ are pending in the application.

Of the above, claims \_\_\_\_\_ are withdrawn from consideration.

2.  Claims \_\_\_\_\_ have been cancelled.3.  Claims \_\_\_\_\_ are allowed.4.  Claims \_\_\_\_\_ are rejected.5.  Claims \_\_\_\_\_ are objected to.6.  Claims \_\_\_\_\_ are subject to restriction or election requirement.7.  This application has been filed with informal drawings which are acceptable for examination purposes until such time as allowable subject matter is indicated.8.  Allowable subject matter having been indicated, formal drawings are required in response to this Office action.9.  The corrected or substitute drawings have been received on \_\_\_\_\_. These drawings are  acceptable;  
 not acceptable (see explanation).10.  The  proposed drawing correction and/or the  proposed additional or substitute sheet(s) of drawings, filed on \_\_\_\_\_ has (have) been  approved by the examiner.  disapproved by the examiner (see explanation).11.  The proposed drawing correction, filed \_\_\_\_\_, has been  approved.  disapproved (see explanation). However, the Patent and Trademark Office no longer makes drawing changes. It is now applicant's responsibility to ensure that the drawings are corrected. Corrections MUST be effected in accordance with the instructions set forth on the attached letter "INFORMATION ON HOW TO EFFECT DRAWING CHANGES", PTO-1474.12.  Acknowledgment is made of the claim for priority under 35 U.S.C. 119. The certified copy has  been received  not been received been filed in parent application, serial no. \_\_\_\_\_; filed on \_\_\_\_\_.13.  Since this application appears to be in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under Ex parte Quayle, 1935 C.D. 11; 453 O.G. 213.14.  Other

## EXAMINER'S ACTION

SN 980724

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The disclosure is objected to because of the following informalities: Note that subheadings should be provided to delineate the different sections of the specification. Page 2, line 29 and page 11, line 17, note that "Firstly" should be rewritten as --First--. Page 3, line 33, note that "... more easily cast than a thin plate" is vague in meaning and should be rephrased for clarity. Pages 4, 6, 7, at all occurrences therein, note that "said" should be rewritten as --the--. Page 8, line 37 and page 14, line 6, note that --13-- should precede "b" and "c", respectively. Page 9, line 5; page 12, line 14; page 14, line 15: note that --15-- should precede "b" and "c" respectively. Page 11, line 4, should "bevelled" be correctly spelled as --beveled--?; line 26, note that "on the contrary" should be rephrased for a proper characterization; line 37, note that "position 38" appears to be depicted only in --Fig. 4-- rather than "Figs. 1 and 4". Page 12, line 9, note that "Figs. 4 and 5" should be --Figs. 4 and 5a-5c-- for consistency with the drawing figures; lines 16, 17, note that "wall 38" does not appear consistent with "position 38" (see p. 11, l.37) and needs clarification; line 17, note that --(see Fig. 4)-- should follow "42" for clarity. Page 13, in the description of "Fig. 10", note that further elaboration regarding the "cut off" and "phase shift" method should be respectively provided. Page 14, line 7, note that --of Fig. 12-- should follow "c"; line 15, note that --of Fig. 14-- should follow "c".

Appropriate correction is required.

The disclosure is objected to because of the following informalities: Note that the following reference labels need description in the specification relative to the corresponding figures: Fig. 1 (36); Figs. 1-3 (43); Fig. 2 (30); Figs. 2, 3 (20); Fig. 4 (28, 29, 30, 40, a, b, c);

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Figs. 5a-5c, 15a-15c, 16 (14); Figs. 9, 12, 13a-13c, all reference labels therein; Fig. 15a (E<sub>1</sub>, E<sub>2</sub>); Figs. 15b, 15c (40); Fig. 16 (18, 32); Fig. 18, in its entirety.

Appropriate correction is required.

The drawings are objected to because of the following: In Figs. 2 and 3, note that --cover 34-- needs to be depicted; In Fig. 4, note that section lines --5A, 5B, 5C-- need to be labeled and reference labels (22, 43) need to be provided. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claims 1-9; 10 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 1, last paragraph, note that it is unclear which polarization (i.e. first or second) is intended by the recitation of “the incident polarization”.

In claim 2, note that it is unclear what characterizes the “protrusion” being “located into the short circuit”. Note that use of the further modifier “that is” renders the remainder of the claim vague and indefinite.

In claims 5, 6, 7, note that reference to “the wedge-shaped protrusion” or “the wedge” respectively lack strict antecedent basis in claim 1.

In claims 8, 9, similarly note that “the waveguide rotator” lacks antecedent basis in claim 1.

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In claim 10, note that "said waveguide cavity" lacks strict antecedent basis. Also, note that it is unclear what characterizes "the width of the waveguide" (also see claim 5).

The following claims have been found objectionable for reasons set forth below:

In claims 1, 11, note that "in the same longitudinal plane" should be rephrased as --along a common longitudinal plane-- for a better characterization.

In claim 1, line 4, note that --the-- should follow "which". Moreover, note that the "(first/second) polarized signal" should be defined as appropriate ones of the "at least two orthogonally polarized signals" for clarity of description. Also at appropriate occurrences --said common longitudinal axis-- is suggested. In line 31, "and" should be deleted and in line 34, "said" should be deleted. In line 36, note that "the" should be rewritten as --a recombined--.

In claims 10, 11, note that "a polarized signal" should be rephrased as --an incident signal-- for consistency.

In claim 10, note that "a protrusion in a waveguide" should be --a protrusion in the waveguide-- and "whereby said recombined" should be --whereby a recombined-- for clarity.

In claim 11, note that "it" should be rewritten to indicate the intended feature. Also note that "the recombined" should be --a recombined-- and "same" should be --common-- for consistency.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

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(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 2, 4, 5; 10 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by the International ('857) publication (cited by applicants').

The International ('857) publication in Fig. 1 thereof discloses a circular waveguide (14) having a first probe (20) receiving signals (V1) of a first polarization. Located downstream of the first probe is a signal isolation post (22) extending from the waveguide wall which reflects the signals (V1) back to probe (20) while passing orthogonally polarized signals (V2). A second probe (24) is located downstream of isolator (24). A polarization rotating plate is located adjacent to a short circuit end (32) of the waveguide such that polarization signal (V2) is reflected off short circuit (32) along with a 90 degree polarization so as to be received probe (24). The polarization rotating plate (30) includes a protruding surface bounded by leading edge (34a) and extending partly across the waveguide towards the short circuit end. In operation, note that edges (34a, 34b) of plate (30) causes a partial reflection of signal (V2) while another portion of signal (V2) can pass through the polarization rotating plate (30), reflect off the short circuit end (32) and be rotated 90 degrees. The two reflected and rotated signals are then recombined (see page 8) to be received at probe (24). Moreover, as described at page 9, the distances of the edges can be selected such as to be frequency dependent and thus this selection of distance inherently provides cut-off for certain frequencies. Note from fig. 4 that as an

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alternative to the stepped plate of fig. 1 a wedge shape plate (fig. 4E) would have been usable.

Such wedge shape plate narrowing to a common location or point at the waveguide wall (16).

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103© and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over the International  
(cited by applicants)  
(‘857) publication in view of Hirota et al.

As disclosed in Fig. 1 of the (‘857) publication, a low noise block (i.e. LNB, 10) is described and which includes Feedhorn (18) coupled to waveguide (14) at aperture (16). Also an enclosure (shown in phantom) contains and supports the LNB circuitry as well as coupling with probes (20, 24). The (‘857) publication differs from the claimed invention in that a printed circuit board for supporting the LNB circuitry is explicitly disclosed.

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Hirota et al (figs. 1a-1c) discloses a circuit board (4) having probes (5, 7) coupled thereto for receiving orthogonally polarized signals which can be processed by circuitry on the circuit board (4). Also, as evident from fig. 3, such circuit board is enclosed in a shielded chassis and cover to form an enclosure.

Accordingly, it would have been obvious to have configured the LNB circuitry within the housing of the ('857) publication to have included a circuit board therein as taught by Hirota et al. As is evident from Hirota et al, circuit boards for supporting LNB processing circuitry and orthogonal probes are conventional within this same field of endeavor, thereby suggesting the obviousness of such a combination.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Tsukada (fig. 7) discloses a reflector and polarization rotator (7', 8'). King et al pertains to a polarizer similar to the ('857) publication.

Any inquiry concerning this communication should be directed to Benny Lee at telephone number 308-4902.

BENNY T. LEE  
PRIMARY EXAMINER  
ART UNIT 2817

Lee/ek

04/01/03